

**Remarks/Arguments:**

Claims 16-34, newly presented hereby, are pending.

Claims 1-15 are cancelled, without prejudice or disclaimer.

Present (new) claims 16-18, 21-31, and 33 correspond to (cancelled) claims 1-15 rewritten to more clearly define the invention. For example, the terms "copolymer" and "co-polymer" were used interchangeably in the cancelled claims; whereas, for the sake of consistency, the present claims recite only the term "copolymer." Other changes made for the sake of consistency are readily apparent.

Claim 15 is also rewritten (as new claim 33) by incorporating subject matter described in the instant specification (page 14, lines 1-26): The claimed "wound dressing" now includes a "backing" for the recited "adhesive," i.e., a layer of material disposed on the back/opposite side of the side applied to the wound.

Present (new) claims 19 and 20 contain the preferred and most preferred subject matter, respectively, recited in (cancelled) claim 3. Present (new) claims 32 and 34 are directed to an "ostomy appliance" and a "wound dressing," as in present claims 31 and 33, respectively, but claims 32 and 34 are each dependent on present claim 19.

Claim 3 was rejected under 35 USC 112, second paragraph, as allegedly being indefinite. Reconsideration is requested in view of the changes to the rejected claim, effected hereby.

Claim 3 is amended (as present claim 18) by deleting the narrow range limitations—within the broad range limitation. The narrow range limitations are now the subject matter of claims 19 and 20, newly presented hereby (as explained above).

In view of the foregoing amendment to the rejected claim, the rejection of claim 3 under §112, ¶ 2, is overcome. Withdrawal of the rejection is in order.

Claims 1-6 and 9-15 were rejected under 35 USC 102(b) for allegedly being anticipated by US2002/0120032 (Gothjaelsen). Reconsideration is requested.

For anticipation under §102 to exist, each and every claim limitation, as arranged in the claim, must be found in a single prior art reference. *Jamesbury Corp. v. Litton Industrial Products, Inc.*, 225 USPQ 253 (Fed. Cir. 1985). The "absence" from a prior art reference of a single claim limitation "negates anticipation." *Kolster Speedsteel A B v. Crucible Inc.*, 230 USPQ 81, 84 (Fed. Cir. 1986). To anticipate the claim, each claim limitation must "*identically* appear" in the reference disclosure. *Gechter v. Davidson*, 43 USPQ2d 1030, 1032 (Fed. Cir. 1997) (*emphasis added*). To be novelty defeating, a reference must put the public in possession of the identical invention claimed. *In re Donahue*, 226 USPQ 619 (Fed. Cir. 1985).

The "adhesive composition" of the rejected (and present) claims is in the form of "a rubbery elastomeric matrix." This limitation of the present claims is neither taught nor suggested by Gothjaelsen.

Gothjaelsen (Abstract) discloses a "non-memory putty-like adhesive" (also referred to as a "mouldable mass") comprising three components: a "blockcopolymer having a major content of

di-blockcopolymer," a "tackifying liquid constituent," and a "waxy constituent." With respect to the physical characteristics of the disclosed "mouldable mass," Gothjaelpsen (paragraph [0023]) teaches (emphasis added):

The content of diblock copolymer ... renders the mouldable mass less elastic than a corresponding mass comprising a threeblock copolymer due to a minor degree of physical cross-linking and imparts to the plasticity or substantially non-memory putty-like characteristics of the mass.

Accordingly, as opposed to the presently claimed "adhesive composition" limited to a "rubbery elastomeric matrix," the "adhesive" of Gothjaelpsen is not a rubbery elastomer (i.e., a "rubbery elastomeric matrix"): as well known in the art (and as its name implies), an elastomer has the property of elasticity, i.e., after stretching, it retracts rapidly and fully recovers its original dimensions (*Hackh's Chemical Dictionary*, 4<sup>th</sup> Ed., New York, 1969, 232-233) (attached). On the other hand, the Gothjaelpsen adhesive has "plasticity," i.e., "non-memory putty-like characteristics; for example, when stretch-molded to form a particular shape, a plastic (putty-like substance) will retain the shape into which it was stretched. In other words, the adhesive of Gothjaelpsen having "dawn-memory putty-like characteristics," cannot meet the limitation "a rubbery elastomeric matrix" of the present claims.

Accordingly, the "absence" from Gothjaelpsen of the rubbery elastomeric matrix limitation of the present claims "negates anticipation" of any of the present claims by the cited reference. *Kolster Speedsteel AB*, 230 USPQ at 84. Since each limitation of the present claims does not "identically appear" in the Gothjaelpsen disclosure, the reference cannot anticipate any of the present claims. *Gechter*, 43 USPQ2d at 1032.

In view of the foregoing remarks, the rejection of claims 1-6 and 9-15 under §102(b), as allegedly anticipated by Gothjaelpsen, is overcome. Withdrawal of the rejection is in order.

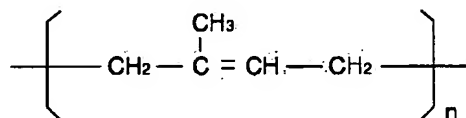
Claims 1-5, 7-10, and 13-15 were rejected under 35 USC 102(b) for allegedly being anticipated by US5760135 (Korpman). Reconsideration is requested.

Korpman (Abstract) discloses a "pressure sensitive adhesive formed of a liquid and solid rubber." According to the statement of rejection (Office Action, page 6), the disclosed adhesive fully meets the rejected claims: Column 1, line 30, discloses an "elastic rubber," allegedly meeting the "rubbery elastomeric matrix" limitation of the rejected claims, and claim 9 (column 10), lines 26, 28, and 14, disclose—as "a mixture of a solid rubber and a liquid rubber"—"liquid isoprene" and a "block polymer" containing blocks of "styrene" and "isoprene" (styrene/isoprene block polymer), the disclosed "liquid isoprene" allegedly meeting the "homopolymer" limitation of the rejected claims and the disclosed styrene/isoprene block polymer allegedly meeting the "block-copolymer" limitation of the rejected claims. With all due respect, the allegations are poorly taken.

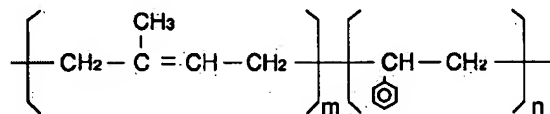
First of all, PTO impermissibly relies on (i.e., combines) Korpman's background teachings (the "elastic rubber" disclosed at column 1, line 30) with Korpman's (alleged) invention teachings (the "liquid isoprene" and styrene/isoprene block polymer disclosed in claim 9, lines 26, 28, and 14) which, by itself, renders the rejection untenable. A patentee's "acknowledgments of the state of the art," e.g., in the "Background of the Invention," are "not ... an enlargement of the invention described in the patent" and "would not be so understood by a person skilled in the field of the invention." *Wang Laboratories, Inc., v. America Online, Inc.*, 53 USPQ2d 1161, 1164 (Fed. Cir.

1999). In other words, while found within the four corners of the patent document, the background teachings and the invention teachings are separate from one another, i.e., they do not constitute a single (combined or combinable) description in Korpman, in the sense required by §102(b).

Secondly, the disclosure relied on in Korpman does not, in fact, meet the "homopolymer" and "block-copolymer" limitations of the rejected (and present) claims, allegations to the contrary in the statement of rejection, notwithstanding. The structures of liquid isoprene



and styrene/isoprene block polymer



(*Liquid Isoprene Rubber "LIR"*, online at <http://www.micchem.com/products/Lir.htm>, printout attached) show that neither constitutes a saturated hydrocarbon chain; and, as such, (a) the disclosed styrene/isoprene copolymer—having an isoprene block—does not meet the present claim limitation to "a block-copolymer ... [having] at least one block of a linear or branched, saturated hydrocarbon chain" and (b) the disclosed liquid isoprene does not meet the present claim limitation to "the homopolymer [that] is a linear or branched, saturated hydrocarbon chain."

Accordingly, the "absence" from Korpman of the saturated-hydrocarbon homopolymer and saturated-hydrocarbon-block copolymer limitations of the present claims "negates anticipation" of

any of the present claims by the cited reference. *Kolster Speedsteel AB*, 230 USPQ at 84. Since each limitation of the present claims does not "identically appear" in the Korpman disclosure, the reference cannot anticipate any of the present claims. *Gechter*, 43 USPQ 2d at 1032.

In view of the foregoing remarks, the rejection of claims 1-5, 7-10, and 13-15 under §102(b), as allegedly anticipated by Korpman, is overcome. Withdrawal of the rejection is in order.

Claims 7 and 8 were rejected under 35 USC 103(a) for allegedly being obvious over Gothjaelpsen in view of Korpman. Reconsideration is requested.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art," *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970), "and it is error to ignore specific limitations distinguishing over the [prior art] reference." *Ex parte Murphy*, 217 USPQ 479, 481 (PO Bd. App. 1982). A "ground of rejection is simply inadequate on its face . . . [when] the cited references do not support each limitation of [the] claim." *In re Thrift*, 63 USPQ2d 2002, 2008 (Fed. Cir. 2002).

As explained above, Gothjaelpsen fails to teach or suggest the "rubbery elastomeric matrix" limitation of the rejected (and present) claims. And, Korpman cannot be relied on to supply the "rubbery elastomeric matrix" limitation missing from Gothjaelpsen since, to do so (as explained above), would impermissibly require "enlargement of the invention described in the patent" by the patentee's "acknowledgments of the state of the art." *Wang Laboratories, Inc.*, 53 USPQ2d at 1164.

Moreover, being unable to combine the Korpman background teachings with the Korpman invention teachings—in order to (allegedly) meet all the claim limitations, as required to establish *prima facie* obviousness, *Royka, supra*—the teachings Gothjaelpsen in view of Korpman, in fact, fail to teach or suggest all limitations of the rejected (and present) claims. Since "the cited references do not support each limitation of [each rejected] claim," the obviousness rejection of claims 7 and 8 is "inadequate on its face." *Thrift*, 63 USPQ2d at 2008.

In view of the foregoing remarks, the rejection of claims 7 and 8 under §103(a), based on Gothjaelpsen in view of Korpman, is overcome. Withdrawal of the rejection is in order.

Claims 6, 11, and 12 were rejected under 35 USC 103(a) for allegedly being obvious over Korpman in view of Gothjaelpsen. Reconsideration is requested.

As explained above, Gothjaelpsen fails to teach or suggest the "rubbery elastomeric matrix" limitation of the rejected (and present) claims. And, Korpman cannot be relied on to supply the "rubbery elastomeric matrix" limitation missing from Gothjaelpsen since, to do so (as explained above), would impermissibly require "enlargement of the invention described in the patent" by the patentee's "acknowledgments of the state of the art." *Wang Laboratories, Inc.*, 53 USPQ2d at 1164.

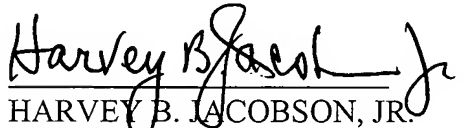
Moreover, being unable to combine the Korpman background teachings with the Korpman invention teachings—in order to (allegedly) meet all the claim limitations, as required to establish *prima facie* obviousness, *Royka, supra*—the teachings of Korpman in view of Gothjaelpsen, in fact, fail to teach or suggest all limitations of the rejected (and present) claims. Since "the cited references

do not support each limitation of [each rejected] claim," the obviousness rejection of claims 6, 11, and 12 is "inadequate on its face." *Thrift*, 63 USPQ2d at 2008.

In view of the foregoing remarks, the rejection of claims under §103(a), based Korpman in view of Gothjaelpsen, is overcome. Withdrawal of the rejection is in order.

Favorable action is requested.

Respectfully submitted,



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# HACKH'S CHEMICAL DICTIONARY

[*American and British Usage*]

*Containing the Words Generally Used in Chemistry,  
and Many of the Terms Used in the Related  
Sciences of Physics, Astrophysics, Mineralogy,  
Pharmacy, Agriculture, Biology,  
Medicine, Engineering, etc.*

*Based on Recent Chemical Literature*

FOURTH EDITION

Completely Revised and Edited by

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HACKH'S CHEMICAL DICTIONARY

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**elastic.** Describing a substance that assumes its original shape after a force, causing distortion, is removed. **e. coefficient.** Young's modulus. **e. constants.** The numerical expressions of the force to which a solid, liquid, or gas can be subjected without deformation of its shape or condition after the force has ceased to act. **e. fluid.** A gas, as compared with a liquid. **e. limit.** The stress or force which produces a permanent change of 0.001% of the length of a substance. **e. modulus.** Modulus of elasticity.

**elastica.** Rubber.

**elasticity.** The property of being elastic. **adiabatic-** See *adiabatic*, **cubical-** The bulk modulus, or the hydrostatic pressure divided by the resulting decrease in volume per unit volume. **limit of-** The smallest value of stress that produces permanent alteration. **longitudinal-** Young's modulus. **modulus of-** Rigidity modulus. The ratio of

stress intensity to percentage strain. **shear-** See *rigidity*. **torsional-** See *rigidity*.

**elastium.** A carbohydrate layer between the epithelium and cortex of wool, responsible for the shrinkage of the latter.

**elastin.** A protein of yellow, elastic tissue, partly attacked by pepsin and digestible by trypsin.

**elastomer.** A generic term (Fisher) for all substances having the properties of natural, reclaimed, vulcanized, or synthetic rubber, *q.v.*, in that they stretch under tension, have a high tensile strength, retract rapidly, and recover their original dimensions fully. Typical elastomers contain long-polymer chains. See table of elastomers below. **synthetic-** Rubber substitutes produced by: (1) polymerization of butadiene alone or with styrene (Ameripol, Buna, Hycar, Perbunan); (2) interaction between sodium polysulfides and dihalides (Thiokol); (3) polymerization of chloroprene

Elastomer	Trade names (examples)	Composition and manufacture
Natural rubber .....	.....	<i>cis</i> -1,4-polyisoprene
Homopolymers		
Polychlorobutadiene .....	Neoprene, Perbunan C	Emulsion polymerization of chloroprene (2-chloro-1,3-butadiene)
Polybutadiene .....	Buna 85, Diene, Philprene- <i>cis</i> -4, etc.	Ionic polymerization (in solution) of butadiene
Polyisoprene .....	Coral Rubber, Ameripol SN, etc.	Ionic polymerization (in solution) of isoprene
Copolymers		
Styrene-butadiene rubber .....	Buna S, Buna Hüls, SBR, Krylene, etc.	Emulsion polymerization of butadiene with styrene
Butyl rubber .....	Enjay Butyl, etc.	Ionic polymerization (in solution) of isobutylene with small amounts of isoprene
Nitrile rubber .....	Perbunan, Butaprene, Hycar, etc.	Emulsion polymerization of butadiene with acrylonitrile
Ethylene-propylene copolymer .....	C 23	Ionic polymerization (in solution) of ethylene with propylene
Fluorine elastomers .....	Kel F	Polymerization of monochlorotrifluoroethylene with vinylidene fluoride
	Viton A	Polymerization of hexafluoropropylene with vinylidene fluoride
Polyacrylates .....	Lactoprene	Copolymerization of methyl or ethyl acrylate with small amounts of chloroethyl vinyl ether
	Acrilan	Copolymerization of acrylic ester with acrylonitrile
Polycondensation products		
Polyurethanes .....	Vulcollan, Vulcaprene, etc.	Polycondensation of diisocyanates with polyesters
Silicone rubber .....	G. E. Silicone R, Siloprene, etc.	Polycondensation of hydrolyzed dimethyldichlorosilane
Polysulfide rubber .....	Thiokol	Condensation of sodium polysulfides with aliphatic dihalogen compounds
Chemical conversion of high polymers		
Halogen substituted rubber .....	Hypalon	Chlorosulfonation (in solution) of polyethylene

From *Chemistry and Industry*, 1959, p. 1498.

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(Duprene, Neoprene); (4) polymerization of isobutylene (Vistanex); (5) polymerization and plasticization of vinyl chloride (Koroseal).

**Elastoplast.** Trademark for: (1) a substance having both elastic and plastic properties; (2) a boracic acid-plaster first-aid dressing.

**elateric acid.**  $C_{20}H_{38}O_5 = 348.27$ . Ecbalin. An acid of elaterium, m.200.

**elaterin.**  $C_{20}H_{38}O_5 = 348.22$ . Memordicin, from the juice of *Ecballium elaterium* and *Memordica balsamina* (Cucurbitaceae). White crystals.  $\alpha$ -m.232.  $\beta$ -m.195. Insoluble in water; a drastic purgative.

**elaterite.**  $(CH_2)_2$ . Mineral caoutchouc, elastic bitumen. A flammable elastic, brown mineral resin, d.0.8-1.23.

**elaterium.** Ecballium. Sediment from the juice of *Ecballium elaterium* (squirting cucumber) containing chiefly elaterin; a powerful cathartic.

**elaterone.**  $C_{24}H_{30}O_5 = 398.23$ . A ketone from elaterium. Colorless crystals, m.300.

**elatic acid.**  $C_8H_{12}O_3 = 140.09$ . An acid from colophony.

**elayl.** Ethylene. **e. chloride.** Ethylene dichloride.

**Elbon.**  $C_{18}H_{14}O_2N_2 = 282.2$ . Trademark for cinnamyl-*p*-oxyphenylurea. White needles, m.204, insoluble in water; used medicinally to treat respiratory disorders.

**elder.** Sambucus. **dwarf-** (1) *Ebulus*. (2) *Aralia hispida*.

**Eldred's wire.** Nickel-steel wire with a copper jacket and a platinum sheath, which may be sealed into glass.

**eldrin.** Barosmin.

**elecampa.** Inula.

**elecampa.** Inulin.

**electret.** The electrical equivalent of a permanent magnet. Thus carnauba wax, when solidified in a strong electric field acquires an orientation of molecules in the direction of this field, which can be retained for several years. The charges are on the surface and may amount to 5 esu/cm<sup>2</sup>.

**electric.** Charged with or capable of developing electricity. Cf. **electrical**. **e. arc.** The luminous arc produced by the passage of electricity at high voltage from one electrode to another. **e. attraction.** The force by which oppositely charged bodies are drawn together. **e. axis.** The axis of a crystal that offers least resistance to the passage of an electric current. **e. battery.** A series of dry cells (q.v.) or galvanic (q.v.) elements. **e. calamine.**  $ZnSiO_3 \cdot H_2O$ . A native zinc silicate (U.K. usage). **e. charge.** A definite quantity of electricity, q.v. **e. conductivity.** See **conductivity**. **e. current.** The quantity of electricity; or the number of electrons flowing per unit time. In esu units it is

the amount of electricity transferred in 1 sec; in emu units it is a current of such strength that 1 cm of the wire experiences a side thrust of 1 dyne, if at right angles to a magnetic field of unit intensity. The practical unit is the ampere, q.v.; its quantity the coulomb, q.v.; and its potential difference the volt, q.v. **e. double layer.** See **electrolytic solution pressure**. **e. eye.** A photoelectric cell used to indicate a null point or end point, or to control a process automatically. Cf. **sectrometer**. **e. field.** The forces around an electrically charged body. **e. field intensity.** A unit of force; the ratio of the force acting on a quantity of electricity at a point, to that quantity of electricity. **e. furnace.** A furnace, q.v., for heating or processing molten electrolytes. **e. lines of forces.** Imaginary curves radiating from a positive toward a negative charge. **e. potential.** Electromotive force. **e. radiation.** See **electromagnetic radiation**. **e. spark.** A luminous discharge produced by the disruptive passage of electricity at high voltage from one electrode to another. **e. surface density.** The number of electrons per unit area. **e. tension.** Electromotive force. **e. transformer.** See **transformer**. **e. valve.** A device that allows an e. current to pass in one direction only; as, a rectifier.

**electrical.** Pertaining to electricity. **e. birefringence.** Kerr effect. **e. capacitance.** See **capacitance**. **e. capacitor.** See **capacitor**. **e. capacity.** E. capacitance. **e. cell.** Voltaic cell. **e. condenser.** E. capacitor. **e. conductivity.** Molal (molecular) conductivity. (1) The quantity of electricity transmitted by a unit area in unit time under a unit potential gradient. (2) The conductivity (in mhos) of one gram equivalent of electrolyte, in solution, between electrodes 1 cm apart. **e. Curie point.** See **Curie**. **e. current.** Electric c. **e. elements.** Voltaic cells. **e. flux.** The flow of an electric current. **e. pressure.** Electromotive force. **e. units.** See table below. Conductivity is the reciprocal of resistance. Unit, reciprocal ohm, mho. emu = electromagnetic units, based on the strength of magnetic poles. esu = electrostatic units, based on the strength of electric charges.

**electricity.** A form of energy that produces magnetic, chemical, thermal, and radiant effects, generated by friction or induction or chemically. (1) **Material conception:** All-pervading negative electrons; their continuous motion is a "current," their abrupt motion a "discharge," their absence a "positive charge." (2) **Dynamic conception:** A stress or strain in the ether resulting in "electric waves" and "radiation." (3) **Magnetic conception:** A field of force. **acid-Positive e. atmospheric-** The e. of the atmosphere, e.g., from charged clouds.

Unit of	Practical emu	cgs emu	cgs esu
Resistance.....	1 ohm	10 <sup>9</sup>	1.1124 × 10 <sup>-12</sup>
Current (strength).....	1 ampere	10 <sup>-1</sup>	2.998 × 10 <sup>9</sup>
Electromotive force (potential) ....	1 volt	10 <sup>8</sup>	0.0033349
Capacity .....	1 farad	10 <sup>-9</sup>	8.9892 × 10 <sup>11</sup>
Quantity .....	1 coulomb	10 <sup>-1</sup>	2.998 × 10 <sup>9</sup>
Inductance .....	1 henry	10 <sup>9</sup>	1.1124 × 10 <sup>-12</sup>
Work .....	1 joule	10 <sup>7</sup>	10 <sup>7</sup>

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## INFORMATION

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## Liquid Isoprene Rubber LIR

### Product Description

- LIR is a viscous liquid rubber based on isoprene
- LIR is colorless, transparent and almost completely odorless
- LIR has a function as a "Plasticizer", LIR is the rubber with the highest molecular weight among materials which have the plasticizing function
- In terms of function as a "Reactive", it is "vulcanizable"
- LIR is co-vulcanizable with solid rubber such as NR, SBR, BR and EPDM using sulfur or peroxide
- LIR is crosslinkable by reaction of its functional groups using metal compounds, epoxy compounds, isocyanate compounds, amine compounds and is crosslinkable by UV radiation

### Applications of LIR

When functioning as a "reactive plasticizer" and as a "crosslinkable", LIR can be applied to the following applications.

- Rubber goods  
Tire, Roll, Belt, Hose, Footwear
- Adhesives  
Solution, Hot melt, Crosslink, Latex
- Sealants  
Automobile, Construction
- Polyurethane  
Potting materials, Coatings, Foam
- Others  
Asphalt modifiers, Lubricants, Binders

### Typical Properties

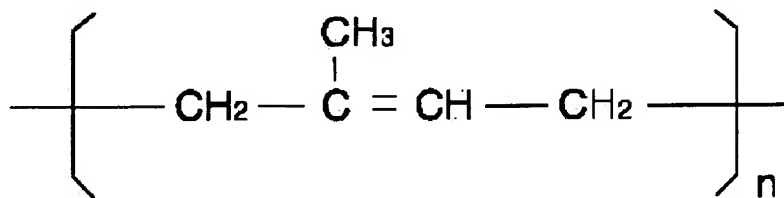
Type	Standard	Copolymer	Hydrogenated	Carboxylated
Grade	LIR 30	LIR-310 (Styrene/isoprene)	LIR-290	LIR-403
	LIR-50	LIR-390 (Butadiene/isoprene)		LIR-410
Structure	*1	*2	*3	*4
Number of functionality in a molecule	—	—	—	3
	—	—	(Iodine value = 40g/100g)	10
Molecular Weight	29,000	30,000	25,000	25,000
	47,000	30,000		25,000
Melt viscosity at 38°C (poise)	740	9,500	10,000	980
	4,800	3,000		1,800
Specific Gravity (g/cc)	0.91	0.92	0.86	0.92
	0.91	0.88		0.92
Glass Transition Temp (°C)	-63	-63	-59	-60
	-63	-95		-59

<b>Features</b>	<ul style="list-style-type: none"> <li>• Good compatibility with NR and IR.</li> <li>• Well-balanced adhesive properties.</li> </ul>	<ul style="list-style-type: none"> <li>• Good compatibility with thermoplastic elastomers.</li> <li>• Superior in heat resistance and migration to other plasticizers.</li> <li>• Superior in heat resistance to other liquid rubbers.</li> </ul>	<ul style="list-style-type: none"> <li>• 90% of Isoprene units are hydrogenated.</li> <li>• Good compatibility with the less unsaturated rubber, for instance EPDM or IIR.</li> <li>• Superior in heat and weather resistance.</li> </ul>	<ul style="list-style-type: none"> <li>• Crosslinkable by metal compounds, epoxy compounds, isocyanate compounds, amine compounds.</li> <li>• Good adhesion with metals and fibers.</li> </ul>
<b>Main applications</b>	<ul style="list-style-type: none"> <li>• Reactive plasticizer (NR, IR, SBR, BR) - Tire, Roll, Belt, Hose, Footwear</li> <li>• Pressure sensitive adhesives (NR, IR, SBR, SIS, SBS)</li> <li>• Hot Melt adhesives (SIS, EVA)</li> <li>• Sealants</li> </ul>	<ul style="list-style-type: none"> <li>• Hot melt adhesives (SIS, SBS, EVA)</li> <li>• Sealants (automobile)</li> </ul>	<ul style="list-style-type: none"> <li>• Reactive plasticizer (EPDM, IIR)</li> <li>• Hot melt adhesives (SIS, SBS, SEBS, SEPS, EVA)</li> </ul>	<ul style="list-style-type: none"> <li>• Modifier of adhesion between rubber and metal, fabric, -belts, hose, footwear.</li> <li>• Pressure sensitive adhesives (Crosslink Type)</li> <li>• Sealants (automobile)</li> </ul>

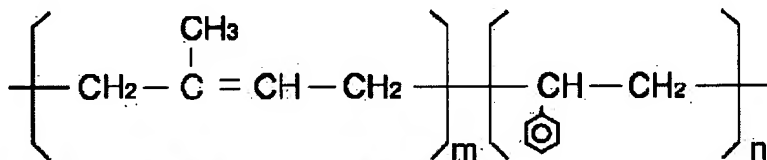
Type	Hydroxylated	Methacrylated	OH-terminated	Latex
<b>Grade</b>	LIR-506	*UC-1	*TL-20 *TH-21 (Hydrogenated)	LIR-700
<b>Structure</b>	*5	*6	*7	*8
<b>Number of functionality in a molecule</b>	5.9	3	3.5 2.9	—
<b>Molecular Weight</b>	25,000	25,000	3,200 3,200	29,000
<b>Melt viscosity at 38 C (poise)</b>	1,300	1,290	200 (30°C) 1,300 (30°C)	75 (Solid content = 60wt %)
<b>Specific Gravity (g/cc)</b>	0.92	0.90	0.92 0.86	—
<b>Glass Transition Temp (°C)</b>	-60	-60	-50 -45	-63
<b>Features</b>	<ul style="list-style-type: none"> <li>• curable by Isocyanate compounds.</li> </ul>	<ul style="list-style-type: none"> <li>• Reactive at low temperature.</li> <li>• Non-solvent</li> </ul>	<ul style="list-style-type: none"> <li>• Resistance to hydrolysis, electrical properties.</li> <li>• Good durability and heat resistance. (TH-21)</li> </ul>	<ul style="list-style-type: none"> <li>• Good compatibility with NR latex</li> </ul>
<b>Main applications</b>	<ul style="list-style-type: none"> <li>• Polyurethane</li> <li>• Pressure sensitive adhesives (Crosslink Type)</li> </ul>	<ul style="list-style-type: none"> <li>• Pressure sensitive adhesives (UV curable Type)</li> </ul>	<ul style="list-style-type: none"> <li>• Polyurethane</li> <li>• Pressure sensitive adhesives (Crosslink Type)</li> <li>• Potting materials</li> </ul>	<ul style="list-style-type: none"> <li>• Reactive plasticizer (NR latex, SBR latex)</li> <li>• Pressure sensitive adhesives (NR latex, SBR latex, Acrylic latex)</li> </ul>
<b>* Under developing grade</b>				

## Structure

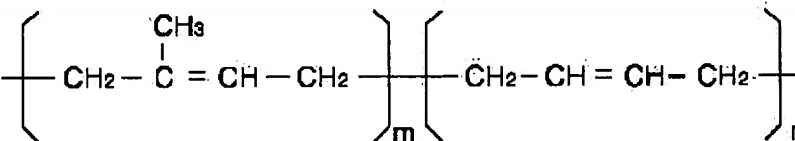
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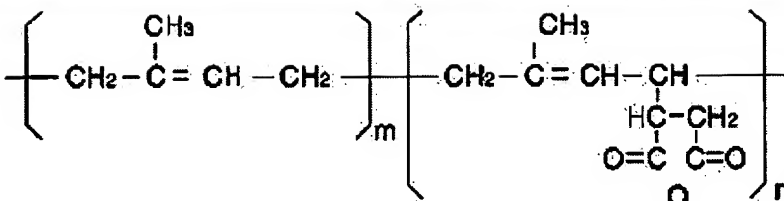
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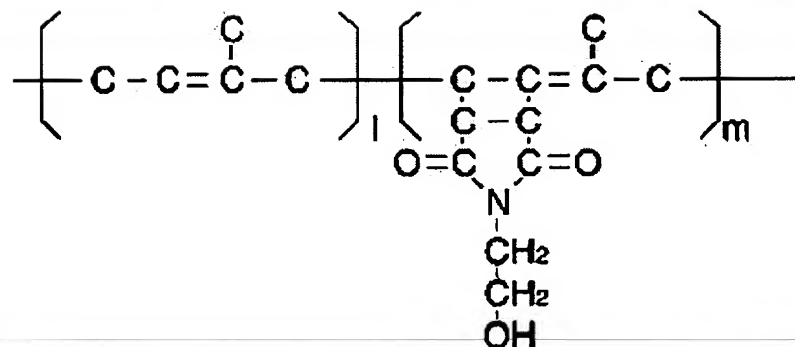
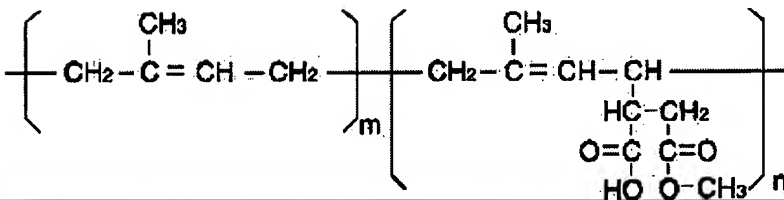
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\*4

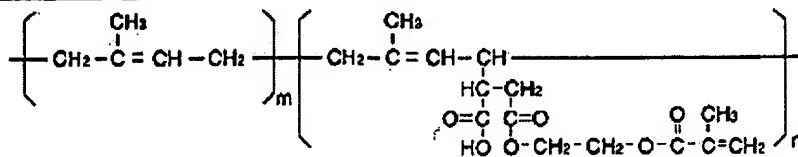


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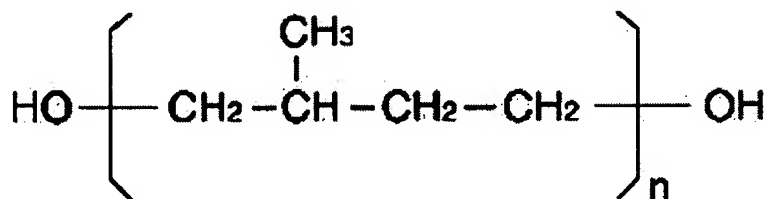
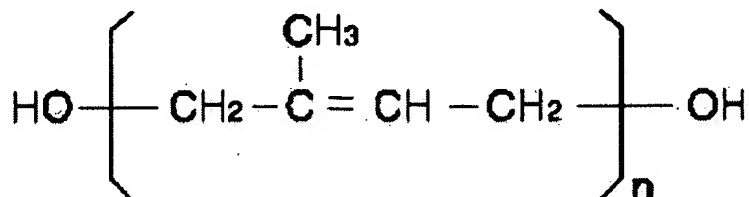




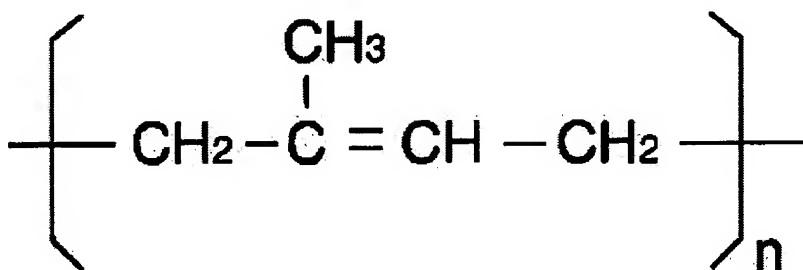
\*6



\*7



\*8



## MSDS

Product Name	Legal Status			Safety Information	
	USA		EU	Ames	LD 50 (mg/kg)
	TSCA	CAS No.	EINECS		
LIR-30	9003-31-0		IP;201-143-3	(-)	>2,000
Lir-50	9003-31-0		IP;201-143-3		
LIR-403	139948-75-7		IP;201-143-3		
LIR-410	128000-08-8		IP;201-143-3 MAN;203-571-6	(-)	>2,000
LIR-290	Y-93-97	9003-31-0	IP;201-143	(-)	>2,000
LIR-390	25102-52-7		IP;201-143 BD;203-450-8	(-)	>2,000
LIR-310	25038-32-8		IP;201-143-3 ST;202-851-5		
LIR-506	*	*			
LIR-700	9003-31-0		IP;201-143-3		
UC-1	139948-75-7		LIR-403+ HEMA;212-782-2		
TL-20	9003-31-0		IP;201-143 3H2O2;231-865-0	(-)	>2,000
TH-21	146177-82-4		IP;201-143-3 H2O2;231-865-0 H2;215-605-7		



**\*Application submitted to TSCA****Handling Information**

Available in both cans and film pouches. Film pouches are preferred when dealing with a viscous polymer.

**Can Style**

Drum	150kg
5 gallon can	15kg

**Pouches\***

Weight of One Pack	Number of Packs in One Carton	Weight of One Carton
2kg	8 packs	16kg
3kg	5 packs	15kg
4kg	4 packs	16kg
5kg	3 packs	15kg

**\*1,2- polybutadiene film / melting point: 80°C**  
**Polyethylene film / melting point: 110°C**[| Home](#) | [About Us](#) | [Markets](#) | [Products](#) | [Contact Us](#) | [News](#) | [Site Map](#) | [Top](#) |[Terms of Use and Privacy Policy](#)